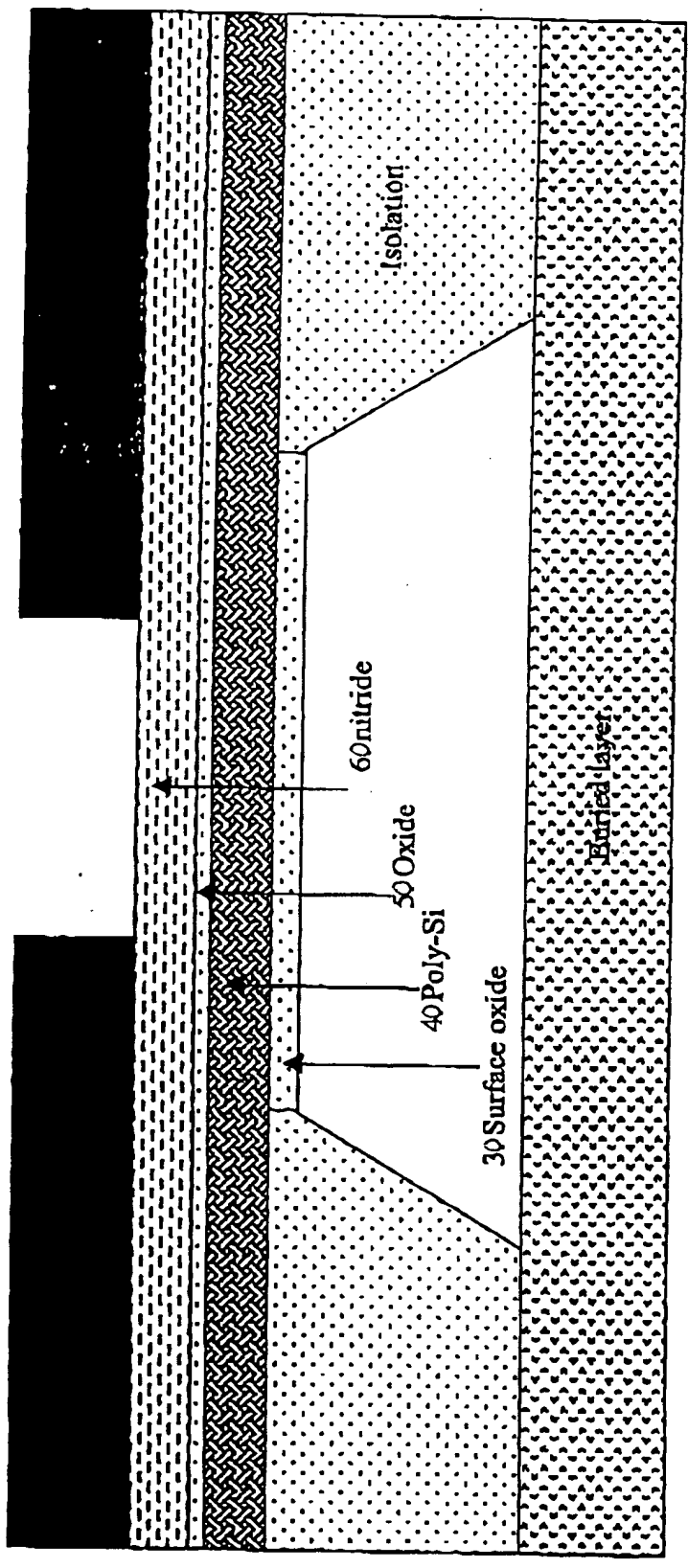


Process:

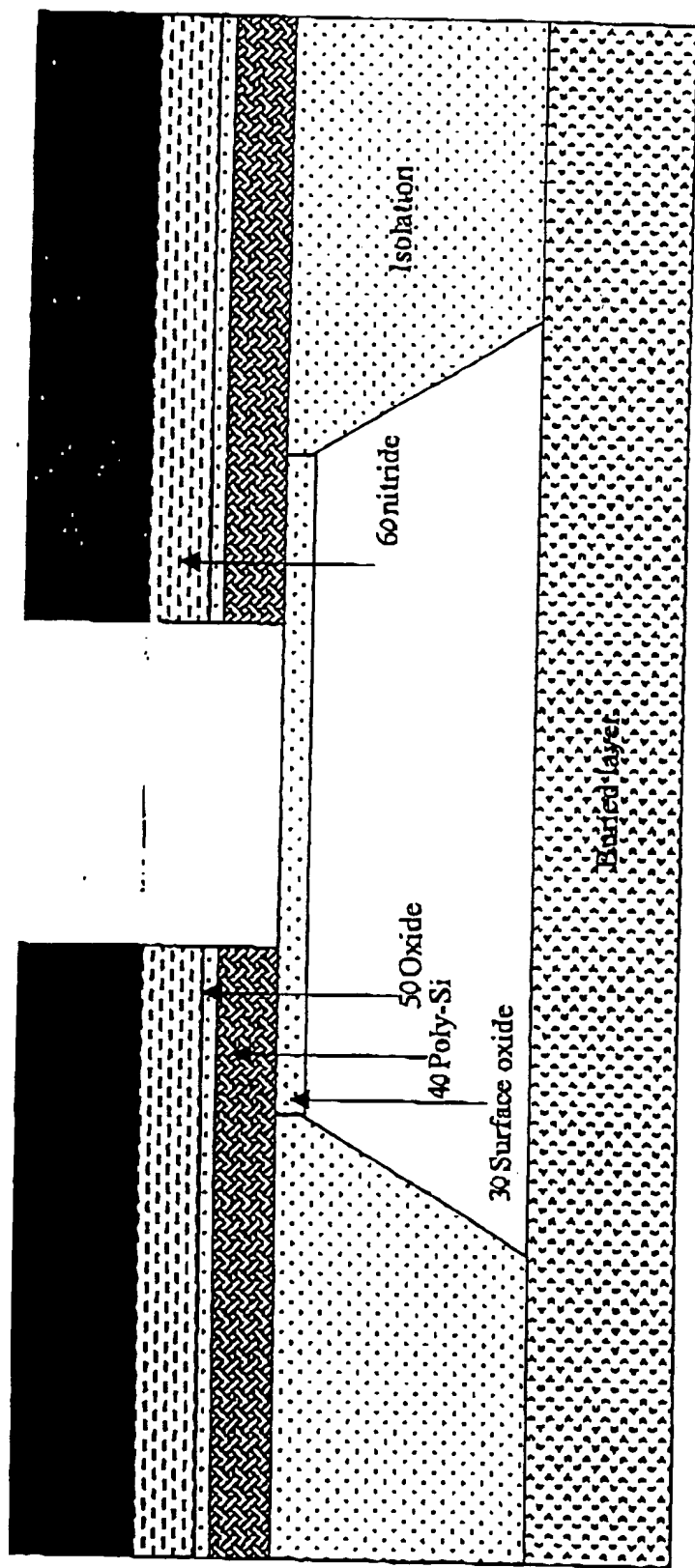
1. Buried layer formation
2. Isolation (STI shown) and collector contact diffusion (not shown)
3. Surface oxidation
4. Poly-Si deposition, thickness  $\sim$  equal to the thickness of SiGe base
5. Oxide
6. Nitride

Fig. 1A



Process:  
7. Emitter window mask

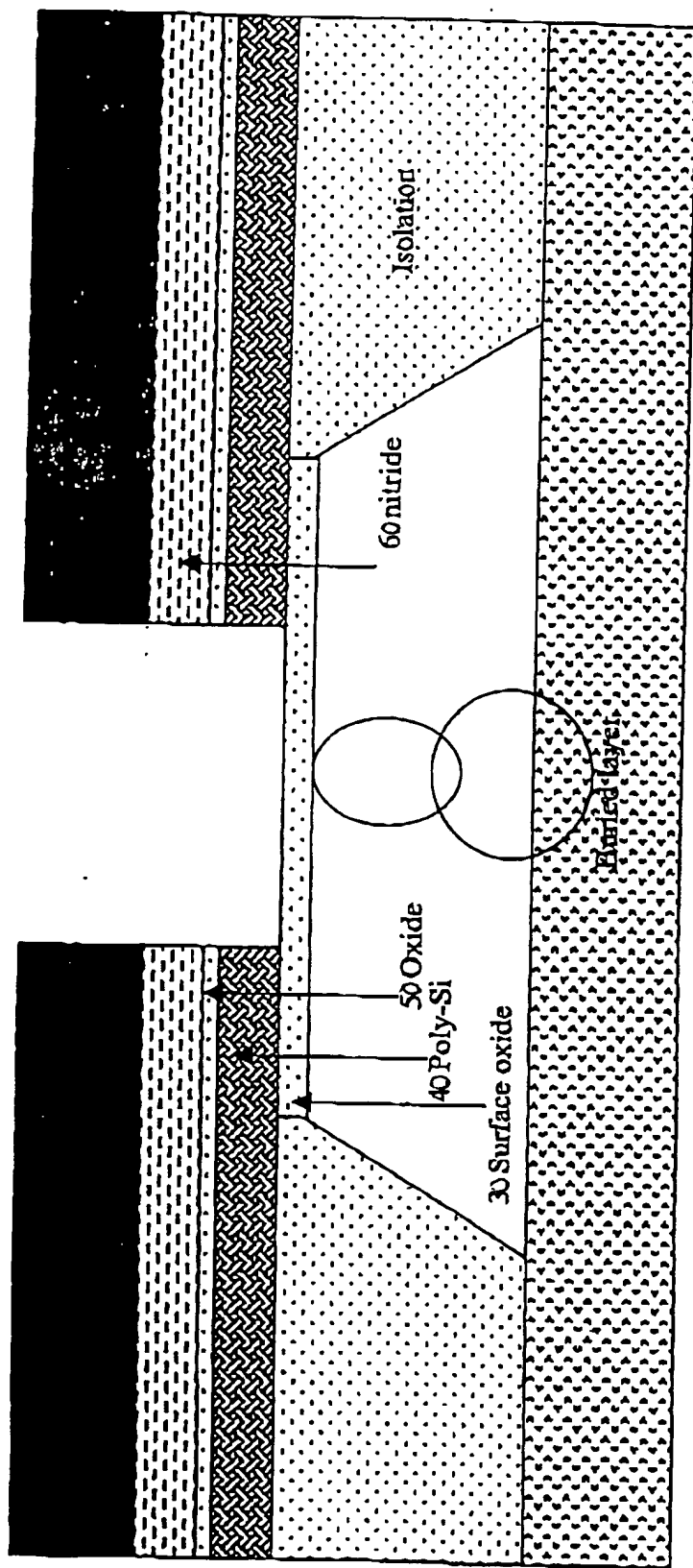
Fig. 1B



Process:

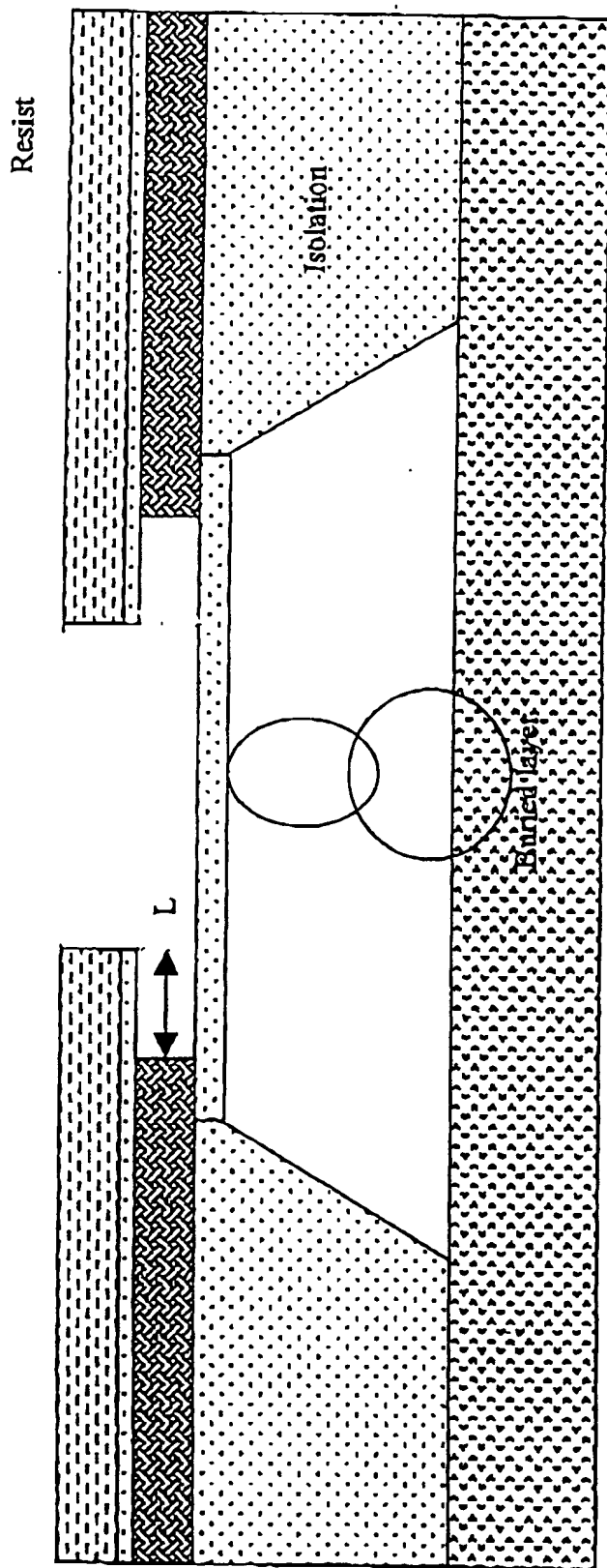
8. Etch nitride, stop on oxide
9. Etch oxide, stop on poly
10. Etch poly, stop on oxide

Fig 1C



Process:  
11. Implant collector, self aligned to the emitter window opening

Fig 1D



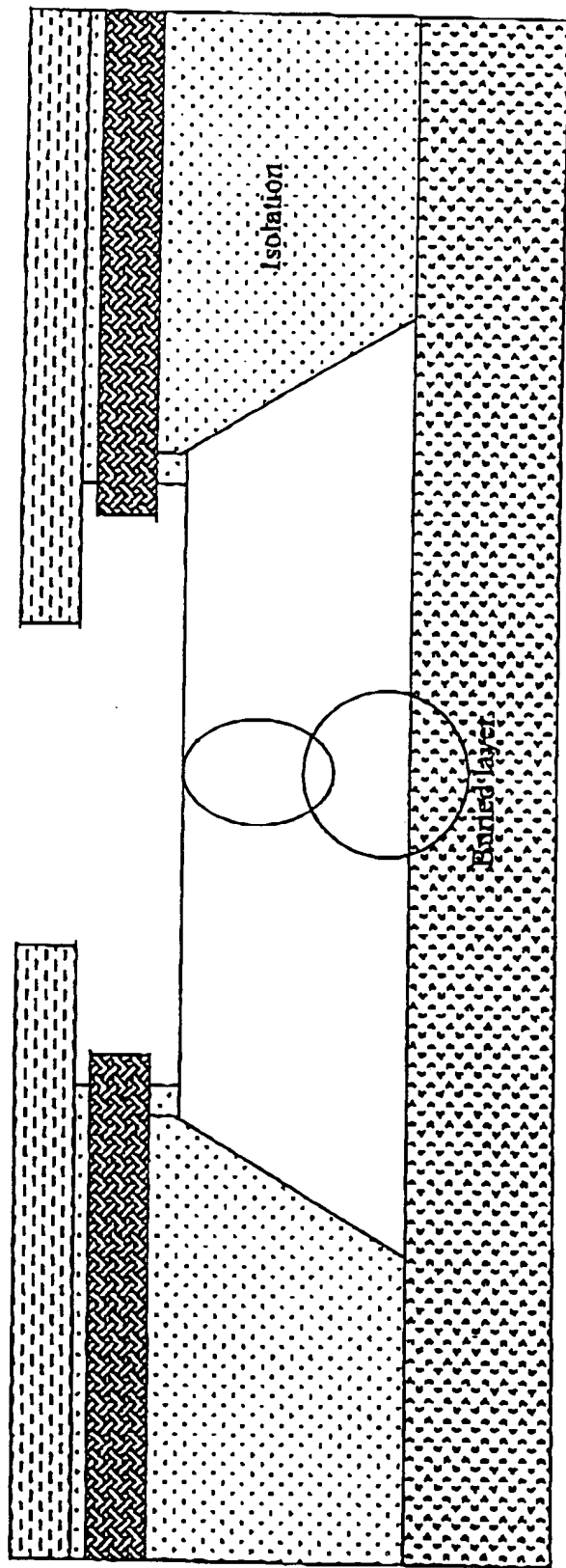
Process:

12. Etch poly-Si laterally, selective to oxide and nitride. L should be greater than poly thickness

- Wet etch, e.g. Choline, carried out after the resist strip

- Dry isotropic etch carried out prior to resist strip, followed by resist removal

Fig. 1E



Process:

13. Wet etch oxide, prepare surface for selective SiGe deposition

Fig 1F

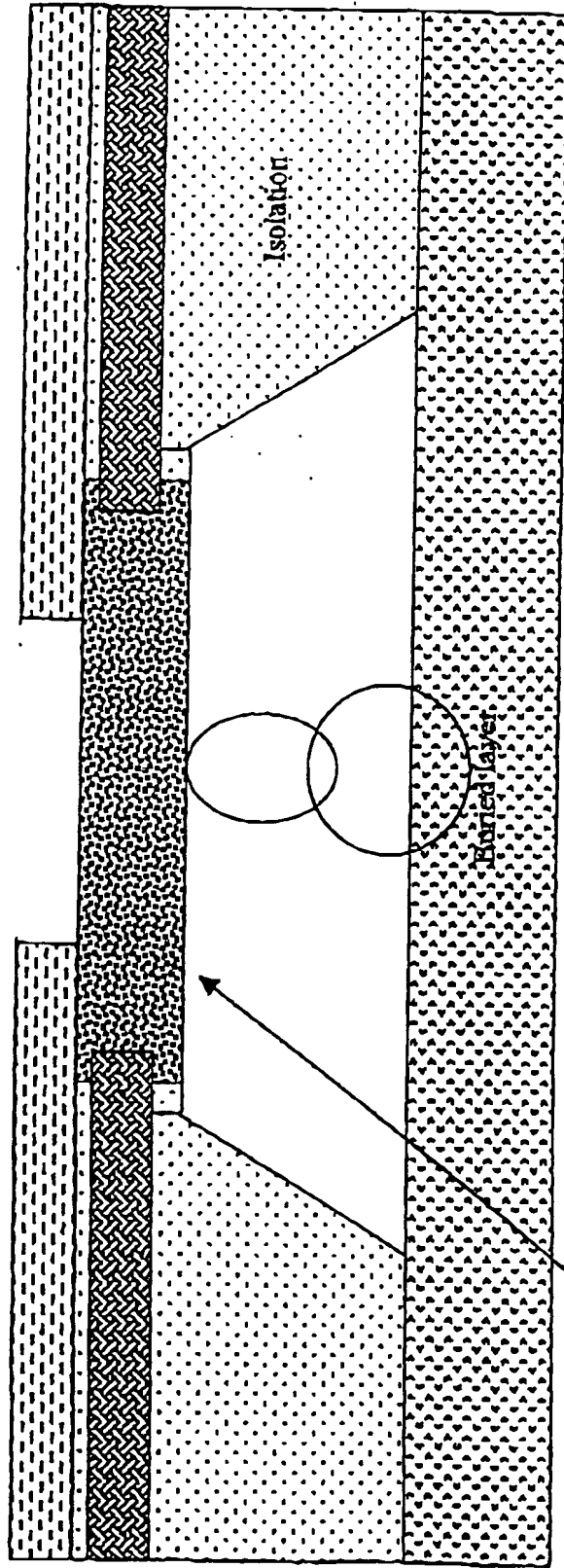
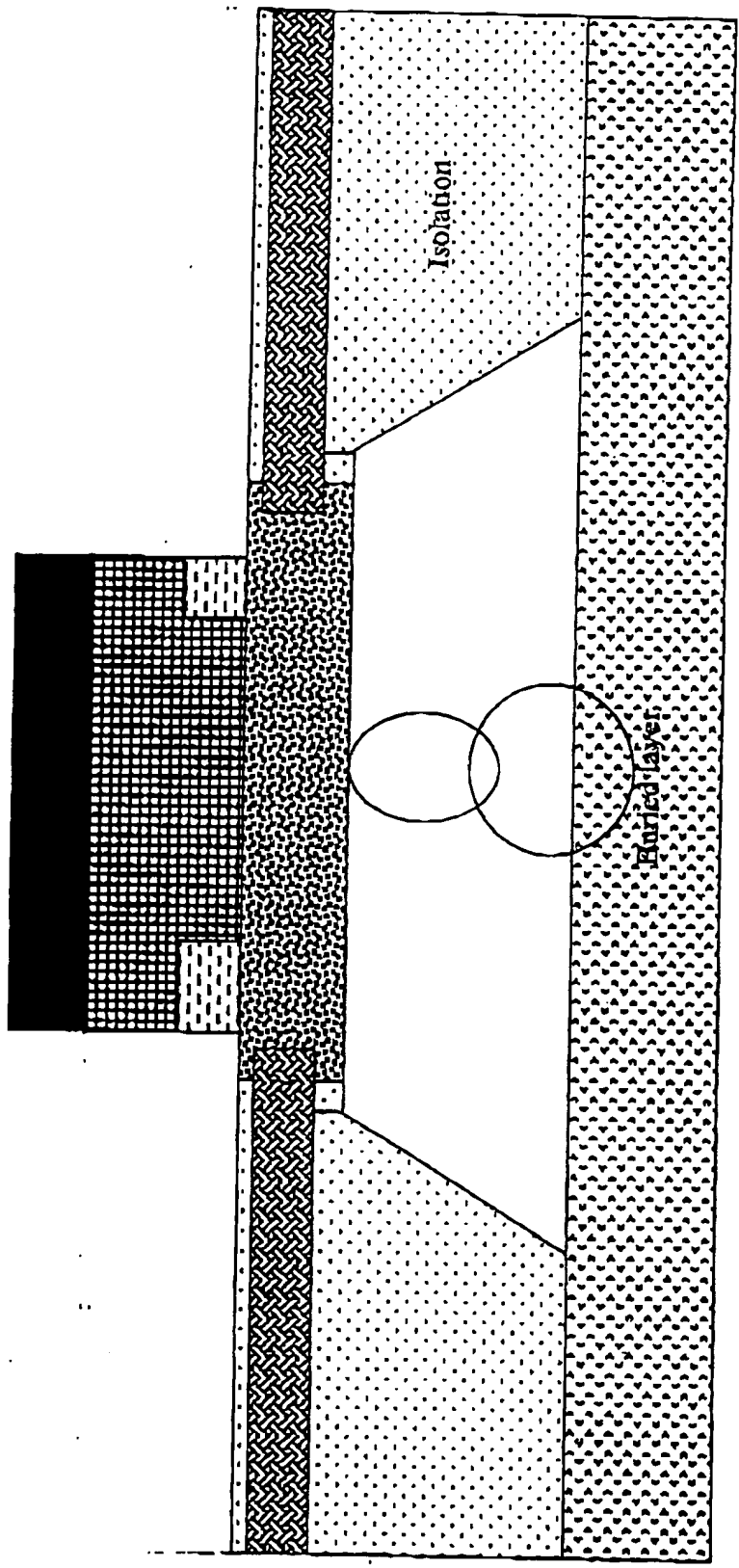


Fig. 16



14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



- Process:
- 17 -16. Emitter poly-Si etch, nitride etch/stop on oxide
  - 14 -17. Extrinsic base implant

Fig 11